

DNDO 2013 Industry Day
Questions and Answers from Industry Day - 23 January 2013

***Note:** Questions (Q), Answers (A), and Responses (R) within this document are paraphrased based on notes taken from the actual spoken answer provided at the conference and are from the individual respondent's view. Information in the document is not to be considered as the final requirement from the Department of Homeland Security (DHS). Questions and responses were reviewed internal to the DHS DNDO, and have sometimes been edited for clarity.*

Opening Questions and Answers regarding the Industry Day Overview presentations

- Q1:** Will the presentations be made available to Industry Day attendees?
A1: Yes. All Industry Day presentations will be posted to FedBizOpps (FBO) in two to three weeks.

Questions and Answers Regarding the Transformational and Applied Research Directorate presentations

- Q2:** Will the current broad agency announcement (BAA) Q&A period be extended past this week?
A2: The deadline will not be extended. Any future changes made to the BAA will be posted on www.fbo.gov.
- Q3:** Can Small Businesses act as prime contractors for opportunities at DNDO?
A3: Yes, Small Businesses are eligible to compete as prime contractors. Additionally, consistent with the Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR) Reauthorization Act of 2011, a portion of DNDO's Research & Development efforts are specifically set aside for small businesses under the Transformational and Applied Research Directorate (TARD) SBIR Program.
- Q4:** Can businesses team with Academia and the Labs?
A4: These teaming structures are welcome.
- Q5:** Is there an effort to involve agencies and organizations like The National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Institutes of Health (NIH), etc. in the development of the Global Nuclear Detection Architecture (GNDA)?
A5: DNDO has several ongoing interagency efforts. For more information, please contact the TARD.

Questions and Answers Regarding the Product Acquisition and Deployment Directorate presentations

- Q6:** What are some of the HE3 alternatives?
A6: Boron-lined tubes, lithium fluoride, zinc sulfide, and wavelength shifting fibers.
- Q7:** Is there a Request for Information (RFI) for Small Vessel Stand-off Detection (SVSD); and if not, what is the timeline for releasing one?

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- A7:** DNDO anticipates making a pathway decision and informing industry by the end of February 2013. An announcement will be released on FBO, as well as a direct e-mail to vendors on the SVSD Vendor List, to coordinate the telecon. The purpose of the telecon will be to review the Program Plan. For additional information regarding the telecom, email DHSIndustryDay@hq.dhs.gov
- Q8:** Some state and local Human Portable Tripwire (HPT) stakeholders do not need devices to identify. Is identification a requirement for HPT?
- A8:** DHS components see value in having the identification requirement. DNDO develops its requirements to meet a DHS bona fide need, taking into consideration the requirements of state and local stakeholders. However, the primary focus is the Federal requirement. State and Local stakeholders are not required to procure the same equipment that DHS procures, although many do.
- Q9:** What is the Radiation Portal Monitor (RPM) replacement timeline?
- A9:** There is a study in progress. DNDO should have a path forward in Spring/Summer of FY13. No procurement is anticipated before FY14.
- Q10:** Is "Commercial First" acquisition responsive to unsolicited proposals and how do you assess whether one widget for everyone or individual widgets based on diverse requirements is best?
- A10:** The "Commercial First" approach does not preclude the submission of unsolicited proposals. However, industry is advised that per Federal Acquisition Regulation (FAR) Subpart 15.6 commercial item offers are by definition not unsolicited proposals. We suggest you review the FAR definition of "unsolicited proposal" at Subpart 2.101, as well as Subpart 15.6 that addresses Unsolicited Proposals. Regarding assessments based on diverse requirements, naturally the proposals must be logical in the context of cost/benefit trades. For example, with HPT, we are considering multiple variants.

Questions and Answers Regarding the Systems Engineering and Evaluation Directorate Presentations

Graduated Rad/Nuc Detector Evaluation and Reporting (GRaDER®)

- Q11:** Is the recent Government funded RFI for the Neutron Detection Test campaign for backpack and handhelds a part of GRaDER®?
- A11:** The two are not the same. GRaDER® is vendor driven, and is designed to test solutions against standards, and with the vendor's permission to report the test results. Backpack standards have not yet been developed; however, GRaDER® will add testing for backpacks to the program once the standards are published.
- Q12:** How long has GRaDER® been used?
- A12:** GRaDER® was established in 2009 and completed the first round of testing in July 2012. Two final reports from the first round of testing were completed in November 2012.

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Q13: Why use a standard for which no one can meet the requirements?

A13: It does not follow that a standard cannot be met because no vendor has yet done so. The ANSI standards are consensus standards. Vendors participated in developing these standards. The Government presumes that vendors would not set an impossible standard. Further, individual sections within the applicable standards have been met by one or more vendors or one of more individual devices in a group of devices being tested. The standards are achievable, though not easily, and many systems do not pass them on the first time, but systems are getting better due to the nature of this testing.

Q14: Will this [GRaDER®] be used in the future to discriminate during the procurement acquisition process?

A14: Currently, GRaDER® is designed to be a tool; it is not designed to be a Qualified Products List or a barrier to entry. GRaDER® results are used as data points, and listing a product on the GRaDER® list provides evidence that a product has been independently tested, and shows which standards the product does and does not meet. DNDO will test to ensure user requirements are met.

Q15: What standards are the hardest to meet?

A15: The greatest challenges in meeting the GRaDER® standards were Radio Frequency (RF) interference and the Drop Test.

Q16: If companies pay for testing under the GRaDER® Program does this create an unfair advantage to bigger companies?

A16: No. The GRaDER® program offers an opportunity for all companies, regardless of size, to obtain an unbiased assessment of the performance of their systems against established standards in an accredited laboratory environment. GRaDER® testing does not constitute an entry bar. It is a service to vendors to help them calibrate their own performance against standards. They may make their performance results public if they chose, but the GRaDER® Program will not publicize their results. There is no Federal competitive advantage to participating in GRaDER®.

Q17: Are GRaDER® Laboratories accredited?

A17: The Laboratories participating in GRaDER® testing went through a rigorous review process to become DNDO accepted test laboratories. Savannah River National Laboratory received National Voluntary Laboratory Accreditation Program (NVLAP) accreditation in November 2012.

The NIST runs the NVLAP. The initial step to NVLAP accreditation is a self-declaration of conformity. Each laboratory that achieves that initial step must then demonstrate testing that is reviewed by NIST for conformity to established NVLAP requirements. Thus, there is a documentation phase, and a performance phase, prior to full accreditation. Each laboratory that participates in GRaDER® must first pass the documentation phase. However, the laboratory may use their initial round of "hands on" testing under GRaDER® to demonstrate their final conformity in order to gain full accreditation.

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Standards

- Q18:** Is this [American National Standards Institute (ANSI)] a technical standard or a mission need?
- A18:** ANSI is a consensus standard and not necessarily mission related. Mission need is, in part, based upon the threat. Test conditions are different for both consensus and mission need based testing.
- Q19:** As it relates to GNDA Data Interoperability, does DNDO have plans to look at a broader interoperability?
- A19:** Yes, DNDO is actively looking at expanding this. The ANSI Standards may be updated to cover those technical capabilities.

Questions and Answers Regarding the Operations Support Directorate presentations

- Q20:** How does measurable, performance based training and education integrate into GNDA?
- A20:** The GNDA Training Program is the method of communicating the Architecture and its policies to the stakeholders. Training provides end users with knowledge and skill necessary to carry out the mission, to operate the technology (detection instruments), and to employ detection devices effectively. Additionally, each threat pathway has some unique aspect to radiation detection and the Training Program builds expertise in these areas with stakeholders and end users. Training qualification standards are being developed to ensure interoperability and consistency. Training courses are already available and contain performance-based assessments. More information can be obtained by emailing: dndotraining@hq.dhs.gov.
- Q21:** How does DNDO envision using smart phones and tablets supporting the GNDA mission?
- A21:** The GNDA Training Program is building web-based programs for refresher training. Elements of these programs are compatible with smart phones and tablets. Short (1 to 2 minute) streamed videos showing instrument operation, for example, will be available to users. A Smart Phone app for use in the reachback process is also being developed as an SBIR project (OSD and TAR).

Related Challenge Area as stated on page 6 Q25/R25: There have been IT issues with maintaining interconnectivity between systems for efficient reach-back. State and local users cannot always get access to hardware and are forced to use a personal computer or cell phone. The use of personal cell phones and devices in the transfer of reachback data could result in these devices being subpoenaed during prosecution or other litigation, if a case related to the detection is filed. This could make all other personal data (including pictures and personal data) stored on the personal phone or computer vulnerable.

- Q22:** How will DNDO support state and local first responders to support the GNDA mission?
- A22:** DNDO's Training, Exercises, and Assistance (TE&A) programs supports the GNDA by assisting federal, state, local, and tribal agencies to efficiently develop rad/nuc detection capabilities that, wherever possible, conform to and support national interests. DNDO's

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TE&A activities are designed to reduce the burden on state and local partners by offering capability development support through program assistance and exercise support by providing the expertise and standardized drill and exercise templates to support planning and conduct of exercises. DNDO also provides training support through subject matter experts and standardized course materials that can be self-delivered on an as-needed basis, as well as computer-based training to assist in maintaining proficiency in the rad/nuc detection mission. By organizing and coordinating the expertise and resources necessary for rad/nuc detection capability development, DNDO is able to deliver a scalable, cost-effective, standardized capability development program that meets the stakeholders' needs and, in turn, supports GNDA development efforts.

End User Panel – Questions and Answer Session

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- Q23:** What is the impact of neutron detection, especially HE3, on the design and utility of Personal Radiation Detectors (PRD)?
- R23:** A United States Coast Guard (USCG) representative stated PRDs with neutron detectors are a big part of the vessel boarding solution set, and Human Portable Tripwire (HPT) will need to have this capability to be attractive to the USCG. Federal, state and local users are concerned with safety and algorithms used in detection devices. Vendors may consider providing a rough estimate of neutron dose rate when compared to the counts per minute (CPM) or counts per second (CPS) as read on a PRD or RIID. It is not necessary to have the instrument read measurements in terms of urem-mrem-rem/hr, yet an equivalence related to a flux which could translate as a go/no-go.
- Q24:** What is the value of low signature in the design of detection equipment?
- R24:** The DNDO OSD emphasized that versatility of form and fit is important, because these systems must be used in many mission profiles. Panelists discussed that limited space, power, and personal real estate make it a firm requirement to have nonintrusive systems. Rad/Nuc detection systems drawing attention from the public will make it harder for officers to do their work in their respective environments. Covert operations with radiation detection equipment is not a primary requirement within the Customs and Border Patrol (CBP) mission environment. CBP believes that officer presence is essential for deterrence. Reliability and ease of use, which includes weight, balance and simplified alarm results, are most important requirements for this type of detection equipment. Systems should be designed for ease of use, without sharp edges, snags, or loose appendages. Emphasis should be upon robustness and easy compatibility with other systems that must be worn or carried. Both TSA and the DC Metro Police Department (Metro PD) representatives discussed light-weight and low visibility as desirable requirements of

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systems. However, this should not rule out the desire of high visibility as a requirement, as it will depend on the operator's mission space and environment. Versatility of form and fit is key as DNDO provides systems to a diverse group of end-users.

Q25: How does the reachback function influence the design of systems?

R25: DNDO stressed that simplicity and reliability of transfer of data was one of the major factors that must be considered in the operation of Radioisotope Identification Devices (RIIDs). Reliance upon loose cables, "Radio Shack" hook-ups – cables and connectors, ad hoc procedures represent a major hindrance to timely and successful operations. DNDO pointed out that complete and successful reachback requires the inclusion of three spectra data measurements within transferred data: (1) background spectra, (2) calibration spectra, and (3) the actual suspected threat measurement. These files should each be N42.42 format.

There have been IT issues with maintaining interconnectivity between systems for efficient reach-back. In that regard, having redundant methods to provide reachback data regarding the alarm when primary communication is not available is desired. State and local users cannot always get access to hardware and are forced to use a personal computer or cell phone. The use of personal cell phones and devices in the transfer of reachback data could result in these devices being subpoenaed during prosecution or other litigation, if a case related to the detection is filed. This could make all other personal data (including pictures and personal data) stored on the personal phone or computer subject to public scrutiny. Many panel members chimed in to identify reachback connectivity as the weakest link in the adjudication process. This is an area where improvements can be made with big payoff to the quality of life for the first responders, and added security for the nation. It was pointed out that this is a standards issue and recommended the establishment of a working group to find a standards-based solution to this challenge.

Q26: How important is the personal safety consideration to the officer wearing a PRD?

R26: User safety is a priority and getting as much upfront information as possible is best. CBP stated the PRD would have much more value to its wearer if it could do more in the way of identifying the threat, but the primary mission of the PRD is Officer safety. All panel members recognized the trade-off in size and weight that has to be considered as PRDs are driven to greater functionality, such as identification. One issue pointed out specifically was the inability to distinguish between a reading of 9 and a reading of 99 on a PRD. The devices the speaker was familiar with have a scale of 0-9. Anything above 9 is presumed dangerous, but he would like to have some insight into the added level of danger above this cut-off point.

The DNDO Standards representative offered that standard 42.48 and other standards outline requirements for detection equipment.

Q27: How are trades made when DNDO wants to focus on "Commercial First" acquisition methodologies and the user is insistent upon certain requirements being met that are not offered by commercial off the shelf (COTS) systems?

R27: "Commercial First" will not put acquisition strategy ahead of user requirements. There are several pathways under the "Commercial First" rubric. If COTs systems cannot meet user

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requirements, then the developers will move to modified COTS, commercialization, and full scale development strategies, as required. The important thing about “Commercial First” is a disciplined and deliberate method to ensure examination of cheaper and more timely solution options before committing to a full scale development approach that could result in reinvention of much of the wheel, ignoring capability that is already available in the market. Panelists made it clear that **certain user requirements cannot be waived.** For example, satellite communications directly from the device is a must for ship board applications. The USCG was also insistent upon saltwater protection and small, lightweight packaging.

Q28: What impact does training play in the deployment of new systems?

R28: Standardized, consistent training that can be “self-delivered” by operational agencies is critical to the development and sustainment of detection capability.

Q29: How should the Rad/Nuc systems be maintained?

R29: DNDO Securing the Cities (STC) Program representatives cited maintenance and sustainment as a major factor in the success of Rad/Nuc Programs. The STC Program requires current participants and future applicants to produce a 10 year sustainment plan. Vendors should expect to regularly receive queries from the STC program staff and stakeholders regarding complete life cycle costs for equipment. Vendors should understand that **STC aims to sustain capability, not just equipment.** Capability in this sense means training, equipment and protocols. Seemingly small changes in hardware/software can thus have great, long term impact on the cost of a 10 year sustainment plan through required changes in training and protocols in response to such instrument changes. Participants were encouraged to keep this in mind and continue working towards a better ongoing dialog with DNDO and stakeholders to assure that capability is not disrupted by the impact of such unanticipated changes. Of additional importance, vendors need to be prepared to allow stakeholders to extract maintenance data from vendor software systems. They are required to produce this data to meet STC Program quarterly reporting requirements, and being able to extract this data in a standard file format, like Excel, is essential. The DNDO Acquisition representative stated the sustainment model followed by DNDO is one in which DNDO buys and deploys systems, supporting them for one year via warranty purchases. After the first year, the user pays the cost of Operations and Maintenance. **Users and developers must work together to examine requirements holistically with a view toward building and maintaining operational capabilities, not just systems.** In this way, trades can be made between things like ease/cost of maintaining a system and ease/cost of replacing it, while maintaining the same operational capability.

Q30: Can operational protocols be adapted to new technologies?

R30: The challenge is to introduce new technologies in a smart way to minimize confusion during its introduction. DNDO reminded audience members that it is very important for vendors to keep DNDO and end user communities informed of pending or proposed changes so that training and protocols can be updated, and that DNDO should be involved in validating stated requirements for capabilities modifications. Changes which result in incremental or

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marginal capability improvements yet result in huge changes across training and protocols are harmful to capability sustainment.

Q31: What is the status of the International Rail (I-RAIL) Program?

R31: CBP offered that for numerous reasons the I-Rail problem is very challenging and is not matched by any affordable, practical, technical approach. Balancing technical challenge, risk factor, the I-Rail Program is on hold in FY13.

Q32: What kind of rail problems do you currently have and what kinds of frustrations exist?

R32: CBP stated they use Non-Intrusive Inspection (NII) x-ray equipment at the borders. We need to be able to detect threats for rail at the border, but there is nowhere feasible to place the detection equipment. There are also issues with systems integration at the border. CBP scans international rail cargo, but DNDO looked at the GNDA gaps and risks plus technical challenges. The risk buy-down of putting resources elsewhere provided more of a “bang for the buck” and the IRAIL program is currently on hold.

Q33: Does an end-user requirements website exist to post requirements?

R33: Requirements are included in DNDO Request for Proposal (RFP) solicitations.